



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,175	07/16/2003	Olivier Muhlhoff	P10-1305	4296

7590 11/03/2004

Alan A. Csontos
Michelin North America, Inc.
Intellectual Property Department
P.O. Box 2026
Greenville, SC 29602

EXAMINER

JULES, FRANTZ F

ART UNIT	PAPER NUMBER
----------	--------------

3617

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/621,175

Applicant(s)

MUHLHOFF, OLIVIER 

Examiner

Frantz F. Jules

Art Unit

3617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8, 9, 11, 12, 16, 19 and 20 is/are rejected.
- 7) ☒ Claim(s) 7, 10, 13-15, 17 and 18 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

Art Unit: 3617

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2, 4-6, 8-9, 11, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chandezon et al (US 6,554,038) in view of Muhlhoff (US 2003/0136488A1) and Eynard (US 6,598,644 B2).

Claims 1-2, 4-6, 8-9, 11, 20

Chandezon et al discloses a tire comprising at least a first and a second bead radially extending to at least a first and a second sidewall, respectively, and said sidewalls joined to a tread; said first bead having a seat (42) the generatrix of which has its axially inner end on a circle of diameter greater than the diameter of the circle on which is located the axially outer end, and a carcass reinforcement (1) formed of at least one carcass ply and anchored in said first bead to at least one annular bead anchoring element (2), and when said tire is mounted on its operating rim and inflated to its recommended pressure, the meridian profile of said carcass reinforcement has a tangent to the point of tangency of said meridian profile with said anchoring element of said first bead that forms relative to the axis of rotation an angle open towards the outside at most equal to 70 degrees, and characterized in that said ring is located at a distance from the bead which is less than the height of the tire;

Art Unit: 3617

wherein said carcass reinforcement ply is anchored in said bead by winding around a bead wire of quasi-circular section to form an upturn extending into a wedge-shaped profiled rubber element having a Shore A hardness greater than 65 points, and wherein the cross-section of said wedge-shaped profiled rubber element corresponds to a sector of a circle with an apex A radially beneath said anchoring bead wire, a radially upper side and a radially lower side extending from said apex and joined to a third side opposite said apex A, said radially upper side forming relative to the axis of rotation an angle of between 20 degrees and 70 degrees and said radially lower side forming with the same axis an angle of between 0 and 30 degrees;

wherein said carcass reinforcement comprises at least two carcass plies, and a second axially inner ply is located axially to the inside of said additional sidewall ring and axially to the inside of said profiled element radially extending axially between said anchoring element and said additional ring in accordance with claim 9.

Chandezon et al discloses all of the features as listed above but does not disclose bead seat having an angle of less than 70 degrees, an inextensible additional sidewall ring located axially to the inside of an axially outermost carcass ply with lower side wall profile rubber mix element. The general concept of providing an inextensible additional sidewall ring located axially to the inside of an axially outermost carcass ply in a tire is well known in the art as illustrated by Muhlhoff which disclose the teaching of an inextensible additional sidewall ring (3) located axially to the inside of an axially outermost carcass ply in a tire, see figs. 2-3. Also, the general concept of providing a bead seat less than 70 degrees with lower side wall profile rubber mix element in a tire is

Art Unit: 3617

well known in the art as illustrated by Eynard which discloses the teaching of bead seat less than 70 degrees with lower side wall profile rubber mix element (6, 7) in a tire, see fig. 1. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Chandezon et al to include the use of an inextensible additional sidewall ring located axially to the inside of an axially outermost carcass ply in his advantageous tire as taught by Muhlhoff in order to provide capability to a vehicle to roll at high speed. In addition, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Chandezon et al to include the use of bead seat less than 70 degrees with lower side wall profile rubber mix element in a tire in his advantageous tire in order to increase the load carrying capability of the tire while reducing the strength required for removal of the tire.

Claim 3

Regarding using an angle of a line joining the center of ring and the annular bead anchoring element open toward the outside with the axial direction of at most 70 degrees as recited in claim 3, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Chandezon et al to include the use of an angle of a line joining the center of ring and the annular bead anchoring element open toward the outside with the axial direction of at most 70 degrees in his advantageous system, as ring reinforcement location is a common and everyday occurrence throughout the tire design art and the specific use of an angle of a line joining the center of ring and the annular bead anchoring element open toward the outside with the axial direction of at most 70 degrees would have been an obvious matter of design preference depending

upon such factors as the load rating of the tire, the yield strength of the side walls material; the targeted vibration characteristics of the tire the ordinarily skilled artisan choosing the best stress profile corresponding to a particular loading imposed on the tire which would most optimize the cost and performance of the device for a particular application at hand, based upon the above noted common design criteria.

3. Claims 12, 16, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chandezon et al (US 6,554,038) in view of Boileau (US 3,631,913) as applied to claim 1 and further in view of Dewitt (US 4,124,679).

Claims 12, 16, and 19

Chandezon et al teach all the limitations of claims 12, 16, and 19 except for a tire comprising first and second sidewalls with beads of unequal diameters. The general concept of providing first and second sidewalls with beads of unequal diameters in a tire is well known in the art as illustrated by DeWitt which discloses the teaching of first and second sidewalls with beads of unequal diameters in a tire assembly, see fig. 1, col. 4, lines 5-10. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Chandezon to incorporate the use of first and second sidewalls with beads of unequal diameters in his advantageous tire as taught by DeWitt in order to improve the spring characteristics of the tire, achieve good lateral lateral stability.

Allowable Subject Matter

4. Claims 7, 10, 13-15, 17-19 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Art Unit: 3617

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Billieres are cited to show related tire comprising multiple layer of ply surrounding bead reinforcing rings and reinforcing rubber material.

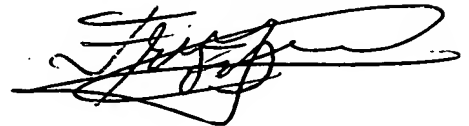
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frantz F. Jules whose telephone number is (703) 308-8780. The examiner can normally be reached on Monday-Thursday and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph S. Morano can be reached on (703) 308-0230. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Frantz F. Jules
Examiner
Art Unit 3617

FRANTZ F. JULES
PRIMARY EXAMINER



Application/Control Number: 10/621,175
Art Unit: 3617

Page 7

FFJ

October 30, 2004